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10/593,984	09/25/2006	Gerhard Meixner	3825	3404

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EXAMINER

LOPEZ, MICHELLE

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3721

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/593,984
Filing Date: September 25, 2006
Appellant(s): MEIXNER ET AL.

Michael Striker
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/17/10 appealing from the Office action mailed 12/11/09.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1, 3-9, and 14-16 are pending, where claim 1 is the sole independent claim; claims 2, 10, 12-13 are canceled; and claims 1, 3-9, 11, and 14-16 are appealed.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claims 1, 3-9, 11, and 14-16 under 35 U.S.C. 112, first paragraph, has been withdrawn.

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

1,901,981	Ousbäck	1-1932
7,331,407	Stirm	2-2008
4,401,419	Rabe	8-1983
3,650,336	Koehler	3-1972
4,828,046	Pyatov	5-1989

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ousbäck (USPN 1,901,981) in view of Stirm et al. (USPN 7,331,407), further in view of Rabe (USPN 4,401,419), and further in view of Koehler (USPN 3,650,336).

Regarding claims 1 and 9, Ousbäck discloses an electric power tool, comprising: a drive unit (6) contained in a housing (1), an impact mechanism (11-13), and a handle (3), including a cam (7) that is driven by the drive unit (6); the impact mechanism has a piston (11) and a striker (13) arranged to be movable inside a separate guide cylinder (3; as shown in fig. 4); wherein the piston is connected to the drive unit (6) by a drive element (e.g. rod 10; fig. 4); and wherein the longitudinal axis of the guide cylinder (3) and the rotation axis of the drive unit (6) are angled with respect to each other (as shown in the embodiment of fig. 4), but fails to disclose wherein the cylinder is stationary in relation to the piston, striker, and cam. Stirm shows an electric hammer having a drive unit (511,514) with a cam (523) and a rod (531), an impact mechanism having a piston (520) and a striker (569) arranged to be moveable inside a guide cylinder (530) that is stationary in relation to said piston, striker, and cam (as shown in the embodiment of fig. 6) for the purposes of properly guiding a hammer/impact action to a tool bit (see col. 9, lines 3-24). It would have been obvious to one having ordinary skill in the art to have provided Ousbäck's power tool with a stationary cylinder as taught by Stirm in order to efficiently guide a hammer/impact action to a tool bit. Additionally, Stirm shows wherein the piston (520) and the striker (569) have the same diameter (as shown in fig. 6).

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With respect to claims 1 and 4, the modified invention of Ousbäck fails to disclose wherein the rod (10) is a cranked rod comprising a cranked section, a first longitudinal segment on a first side of the cranked section and a second longitudinal segment on a second side of the cranked section. Rabe teaches the use of a motion conversion mechanism from a rotary motion to a reciprocating motion having a drive unit (motor 2) with a cam (28), a piston (8), wherein the motion conversion mechanism has a cranked rod (24, 25) connecting the piston (8) to the drive unit for the purpose of reducing the overall length and/or size of the device (as shown in col. 2, lines 36-43). It would have been obvious to one having ordinary skill in the art to have provided the connection rod of Ousbäck further having a cranked rod as taught by Rabe in order to reduce the length and/or size of the power tool.

With respect to claims 1 and 11, the modified invention of Ousbäck fails disclose a Scotch Yoke slider crank (196) provided to transmit force between the cam (7) and the drive unit (6).

Koehler teaches the concept of a power tool using Scotch crank slider provided to transmit a force between a cam (disposed between crankpin 203 and crankshaft 204) and the drive element (198; as shown in the embodiment of fig. 7; col. 8, lines 74-75, and col. 9; lines 1-3) for the purpose of reducing the overall length of the power tool. It would have been obvious to one having ordinary skill in the art to have provided the modified invention of Ousbäck further having a Scotch yoke crank slider to transmit the force between the cam and the drive element as taught by Koehler in order to reduce the overall length of the power tool. Additionally, regarding claim 11, Koehler shows wherein a pin (212) is able to move inside the slider crank, but fails to disclose wherein said pin is a ball. It would have been obvious to one having ordinary skill in the

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art to have substituted Koehler's pin (212) by a ball in order to facilitate the transmission of reciprocating motion.

Regarding claim 3, Ousbäck shows wherein the piston (11) is a separate component.

Regarding claims 5-6, Stirm shows wherein the piston and the drive are connected to each other by means of a pin (not shown numerically in fig. 3); wherein the pin axis and a rotation axis of (207) are oriented at an angle to each other as taught by Koehler.

Regarding claim 7, the modified invention of Ousbäck is capable of provide a piston and a drive rod being embodied as integrally joined to each other.

Regarding claim 8, the modified invention of Ousbäck fails to disclose wherein the drive element is made from plastic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided said drive element comprised of plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, and it would be for the benefits of providing a material with the desired rigidity and flexibility for properly transmitting an impact force. In re Leshin, 125 USPQ 416.

Regarding claims 14-15, Stirm's fig. 1 shows wherein the piston and the striker have the same diameter; the drive unit (at the vicinity of 32) is situated centrally with respect to a longitudinal span of the handle (6); and wherein the impact mechanism is embodied as a pot-type piston (520) and a pot-type striker (569).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ousbäck (USPN 1,901,981) in view of Stirm et al. (USPN 7,331,407), further in view of Rabe (USPN 4,401,419), further in view of Koehler (USPN 3,650,336), as applied above in claim 15, and further in view of Pyatov (USPN 4,828,046).

The modified invention of Ousbäck discloses an electric power tool having a piston substantially as claimed, but fails to disclose wherein said piston is made from a light alloy. Pyatov teaches the concept of a percussion power tool having an impact piston made from a light alloy, i.e. aluminum, for the purpose of provide a piston made from a material which will properly transmit an impact force while enhancing its durability. It would have been obvious to one having ordinary skill in the art to have provided the modified invention of Ousbäck further having a piston made from an alloy as taught by Pyatov to provide durability to the piston.

(10) Response to Argument

Appellant first argues on page 7, that Ousbäck's piston (11) is not directly connected to the driving unit (6) via connecting rod (10), but a cam (7) is interposed between the driving unit (6) and the connecting rod (10). In this instance case, claim 1 merely recites "wherein the piston is connected to the drive unit by a drive element as a cranked rod". This limitation does not limit the piston to have a direct contact with the drive unit (e.g. motor), but to be connected to it. Ousbäck does disclose a piston (11) connected to a drive unit (6) by a drive element (10) as shown in the embodiment of fig. 4. The fact that Ousbäck discloses additional structure not claimed is irrelevant.

Appellant further argues on pages 9-10, that Stirm can not be incorporated into Ousbäck device without destroying the functionality of Ousbäck. In particular, Appellant states that the

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introduction of Stirm's stationary cylinder into Ousbäck's device could not be done without the modification of Ousbäck's guide sleeve (14), regulating collar (5), etc. However, it should be noted that Stirm is relied upon to show a stationary cylinder enclosing a piston and a striker therewithin. It would be within the abilities of one having ordinary skill in the art to apply Stirm's concept of using a stationary cylinder to Ousbäck's power tool in order to properly guide the reciprocation of the piston and striker within said cylinder.

Appellant further argues on pages 10-11, that the modified invention of Ousbäck in view of Rabe fails to show wherein the angle between the longitudinal axis of the guide cylinder and the rotation axis of the drive unit is dependent upon an angular offset between the cranked sections of the rod. However, the Examiner asserts that claims are given their broadest reasonable interpretation consistent with the specification. In this instance case, claim 1 merely recites an angle between the longitudinal axis of the cylinder and the rotation axis of the drive unit to be "dependent upon an angular offset" between the cranked sections of the rod. The broad limitation of "dependent upon an angular offset" does not limit in any manner the range of the angle between the longitudinal axis of the guide cylinder and the rotation axis of the drive unit, neither limits the range of the angular offset between the rod cranked sections. Rabe was used to show the teaching of a motion conversion mechanism comprising a drive unit (2), a piston (28) defining a longitudinal axis, and a cranked rod having a first section (at the vicinity of 29), a middle cranked/angled section (25), and a second section (24), wherein the longitudinal axis (27) of the drive unit (2) is disposed at an angle (e.g. perpendicular) to the longitudinal axis of the piston (28; as shown in fig.1). Also, note that that such 90 degrees angle between the rotation axis (27) and the longitudinal axis of the piston is, indeed, dependent upon the angular offset

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provided by the cranked-angled section (25). In other words, a change in the angle of the cranked section (25) would, thereby, change the angle between the rotation axis and the longitudinal axis of the piston depending on the angular offset between the cranked rod sections. It would be within the abilities of one having ordinary skill in the art to apply Rabe's concept of a cranked rod in order to provided an angle between the longitudinal axis of Ousbäck's guide cylinder and the rotation axis of the drive unit, thereby, reducing the overall length and/or size of Ousbäck's device (as taught by Rabe's col. 2, lines 36-43).

Appellant lastly argues on page 11, that Koehler does not teach that its piston is connected to its drive unit by a drive element and a Scotch yoke slider crank provided to transmit the force between the cam and the drive element. In particular, appellant argues that Koehler's drive element (198) is integrally formed to the rear wall of the piston, and, thereby, is not configured to operate as the claimed drive element for connecting a Scotch Yoke motion converting mechanism to a piston. This is not found persuasive. The Examiner asserts that claims are given their broadest reasonable interpretation consistent with the specification. In this instance case, claim 1 merely recites "a Scotch Yoke slider crank is provided to transmit the force between the cam and the drive element". It is noted that even though a portion of Koehler's drive element (198) is integrally formed with the rear wall of piston (26; as shown in fig. 7), Koehler does show a Scotch Yoke crank slider (196) provided to transmit the force between the cam (e.g. provided between crankpin 203 and crankshaft 204) and the drive element (198) upon engagement of the crankpin (203) within the drive element recess (202).

(11) Related Proceeding(s) Appendix

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No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Michelle Lopez/

Examiner, Art Unit 3721

Conferees:

/Rinaldi I Rada/
Supervisory Patent Examiner, Art Unit 3721

/Henry Yuen/
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